MM621 - Screen Based Interaction

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Project 2 - GreenMenu

Abstract

In America, schools get funding from the government to provide free meals for students, as long as the menus they create comply with certain rules and nutrition requirements[1]. In other words, the government would like to guarantee that kids are eating healthy and balanced meals while in school. In this research, another scenario is introduced: in addition to being healthy, meals should be sustainable in order to get government funding. The reason being that the conversation on how a more sustainable menu can have a great impact on slowing down global warming is starting to catch the attention of people and will soon be more present in people's daily lives. Building a more sustainable menu can be as simple as buying local, or supporting small farmers instead of buying processed foods that were packaged in non-recyclable materials. It could also mean more drastic measures like substituting animal proteins such as meat and eggs for proteins that come from plants. Such proteins use considerably less water to be produced than animal proteins. GreenMenu helps nutritionists that build these school menus to understand better the concept of sustainability. Furthermore, it guides them through building a more sustainable menu for school kids, without losing any of the healthy requirements.

Design Problem

The prompt of the project was to create an app that uses the affordances of a phone to facilitate sustainable actions within a small professional scope that could actually have an impact on the environment, rather than only making the user feel good. The sustainability issue is pressing, and the media has yet to start focusing more attention on how the food industry can have a great impact in slowing down climate change. It is known that making slight changes in diet like simply buying local, in-season vegetables can help support local farmers, diminish the amount of non-recyclable packaging and slow down the use of chemical preservatives that pollute water reserves. More aggressive changes, like switching to a completely plant-based menu can decrease greatly the amount of water wasted, as the "United States Geological Survey estimates that it takes 4,000 to 18,000 gallons of water to produce a hamburger"[2]. This paper research assumes that the government will soon implement a requirement for sustainability within the school menus in order to continue giving funding for free meals for school kids. Throughout the initial research phase, 3 nutritionists were interviewed. When analyzing the data collected, it is possible to see that sustainability is not yet an important issue when building a menu, but, if presented with a tool that could make it easier to include sustainability in their daily work, the majority would be adept at using it. A concern raised during the research is that creating menus for large schools can be time-consuming, so adding one more step could become overwhelming, especially for an older generation of nutritionists who are not used to including technology in their everyday jobs.

Framing UX

With that in mind, GreenMenu was conceptualized to help nutritionists that work creating menus for kids in American schools to learn more about how their job can have an impact on the environment. GreenMenu is intuitive and user-friendly, making the experience seamless, by providing the user easy access to a complete library of foods, showing their sustainability scores and substitution suggestions throughout the process, so the nutritionists do not feel like they are wasting time.

Personas

Throughout this research, two personas were identified as possible beneficiaries of GreenMenu. The first is Mary Jane, a young nutritionist that just started working for a small private school and is an assistant nutritionist at a medium-sized school. She comes from a generation that grew up hearing about the impact that global warming will have in the future and understands the importance of trying to find new mechanisms to make her work more environmentally friendly. Since she works at smaller schools and creates more personalized menus, she can be more creative when using the app. The most important feature for Mary Jane is the in-season produce locator, which tells her which produce is in season at the moment and the map that, upon inserting the school location, shows farmer’s markets that are currently selling the in-season products. Based on that information, she could create menus using the products the school was able to buy and calculate the environmental impact that menu has, while the app offers substitutes that can lower the impact even more.

The second persona that could use GreenMenu is Imaan Watson, a senior nutritionist that has been taking care of the meals of kids of a large public school for over twenty years. Unlike Mary Jane, Imaan did not understand the need of protecting the environment until recently, as he is seeing the kids from school shift behaviors and demand more sustainable choices and the new environmental rules that, together with nutritional rules, are necessary to receive a meal budget from the government. Despite the generation gap and the unfamiliarity with technology at work, he is willing to try a new tool to improve the environmental score of the meals he creates. He will benefit from the intuitive and explanatory layout of the app, which will help him understand what is sustainable and what is not, and why that is. Furthermore, he will be able to create sustainable menus using the “create menu” feature, which is self-explanatory and will guide him through technology seamlessly.

Prototype

GreenMenu is a mobile app that guides nutritionists into building more sustainable menus for school kids. On the bottom of each screen, on the navigation bar, there are three main pages:

1. On the left, the profile page, where the user can add and manage multiple schools, update which days of the week they work at each school, preferences, and personal information;
2. In the center, the menu page which was the most developed flow of the app, where the nutritionists are able to see the daily menus and filter per day and per school, as well as choose to create a new menu on the top right corner;

3. Finally, on the right, the map menu, where the user can easily find all available in-season produce around the school district by imputing the zip code and importing the school's menu of their choice.

The prototype focuses on the "create a new menu" flow. In order to create a menu, the user clicks on the + button on the top right corner of the "menu" page and is directed to an overlay and asked to choose which registered school the menu is for as well as to input the name of the menu. From there, they can search, filter, and sort a variety of ingredients, which are given a sustainability and nutrition score. This score is based on 5 parameters: In-season, healthy, low water consumption, no animal products, and recyclable packaging. After adding all desired ingredients to the new menu, the user can finalize it and now see it on the main page. The menus can be edited at any time. Items that are added but have a low score appear with a red circle on the left side, indicating the app has suggested substitutions to increase the overall score of the menu.

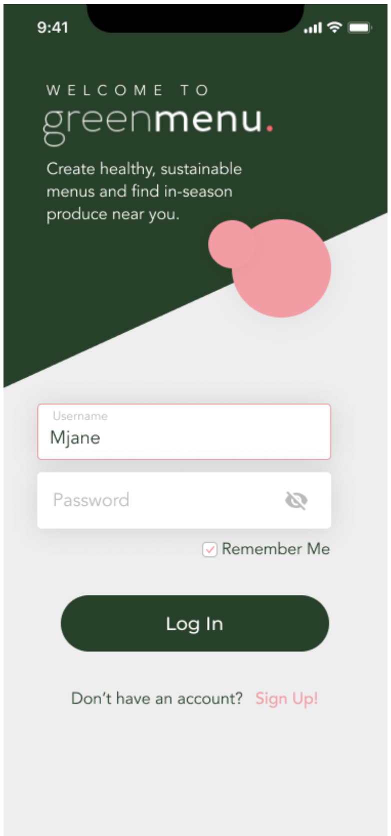
Meaning of Prototype to Personas

While researching prior art and competitors, and speaking to nutritionists, there were no other apps that encompass all the capabilities that GreenMenu does. Most competitors are outdated or focus their affordances on a broader audience instead of a narrow target. Apps designed specifically for nutritionists to use in their offices could not be analyzed, but during the interviews, it was noted that none of them have a sustainability mention. GreenMenu brings everything a nutritionist needs to design menus that are both healthy and sustainable, and let the user add the school or schools they work in, download and share the menu with the school's kitchen and calculate the nutrition score as well as the sustainable score, in order to keep governmental funding to keep providing free meals to school kids. Is also worth keeping in mind, some of the features of GreenMenu were created assuming governmental funding for schools values sustainability, a concept that, as of now, is only an assumption.

Meaning of Prototype to the Environment

As mentioned above, for one burger to be produced, it uses between 4,000 to 18,000 gallons of water[2]. This consumption is due to the crop plantations that need to be watered in order to feed the cattle. According to PETA, "**more than 29 million cows** suffer and die in the meat and dairy industries every year in the US"[3]. The largest public school in San Francisco has roughly 3,600 students that, mostly have animal meat as their main source of protein every day in their menus, if each of them has a burger once a week, that adds to up to **64,800,00 gallons of water per week**. GreenMenu aims to have a real impact on the environment by allowing nutritionists to create sustainable menus, offering substitutions to such foods, in order to diminish the environmental impact they might have. To address the impact animal protein has on the environment, GreenMenu offers multiple substitutes for meat, and informs their nutritional value, so meals prepared will not lack any of the nutrients needed for child development, but will have a real impact in slowing down the climate crisis. To tackle single-use and non-recyclable plastic packaging, the app uses the map feature to help locate farmers that sell in-season produce around the school district. These products are not kept in plastic and are fresh and free from pollutant conservatives. Shopping at farmers' markets within the neighborhood would also cause the carbon print left by produce transportation trucks to decline. When using GreenMenu, the nutritionists will be able to see the real-world impact their sustainable menus made and will be encouraged to share the statistics with the kids.

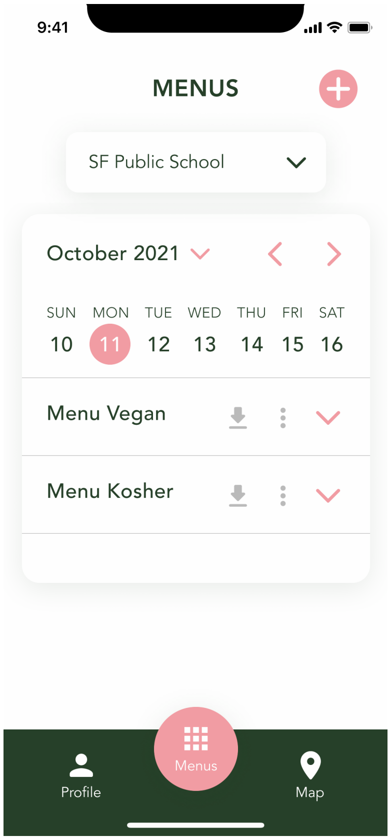
Mock Ups

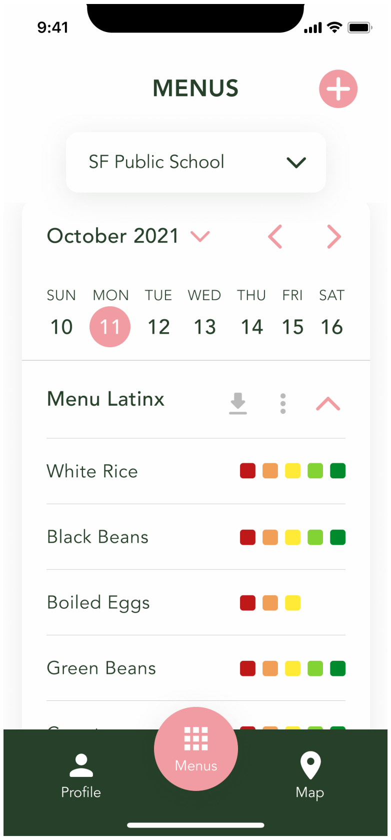


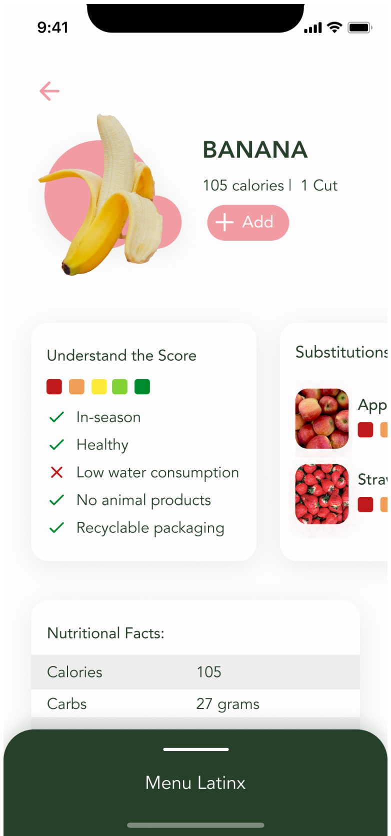
Create healthy, sustainable menus and find in-season produce near you.

Username: Mjane

Don't have an account? Sign Up!

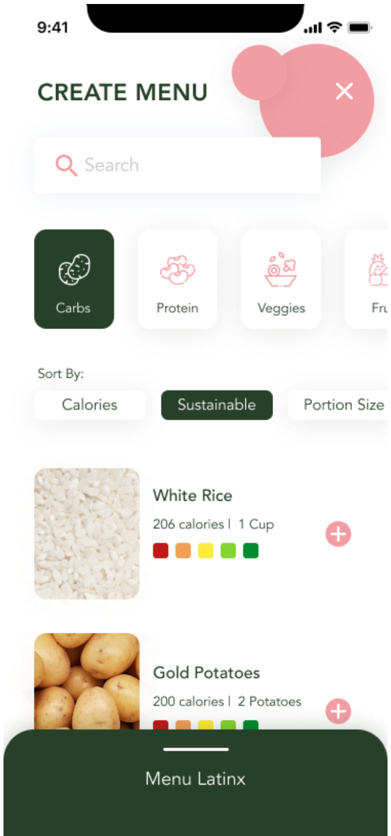


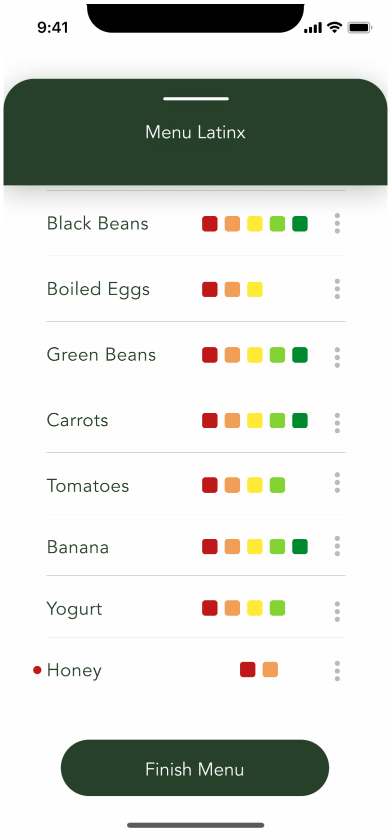




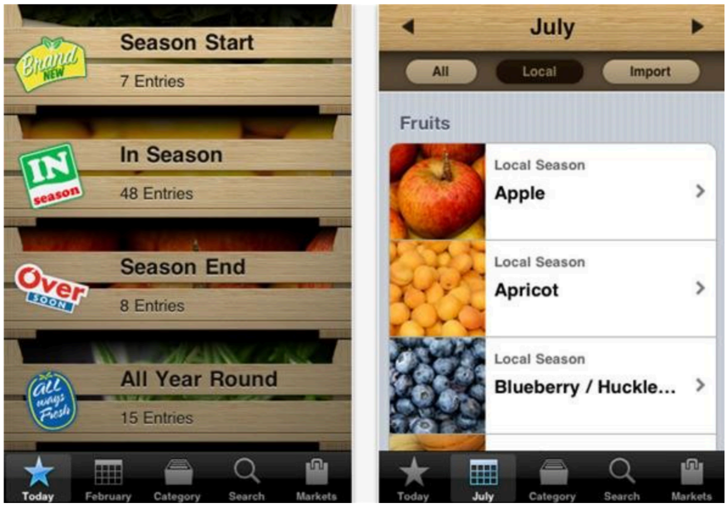
- ✓ In-season
- ✓ Healthy
- ✗ Low water consumption
- ✓ No animal products
- ✓ Recyclable packaging

Nutritional Facts:	
Calories	105
Carbs	27 grams



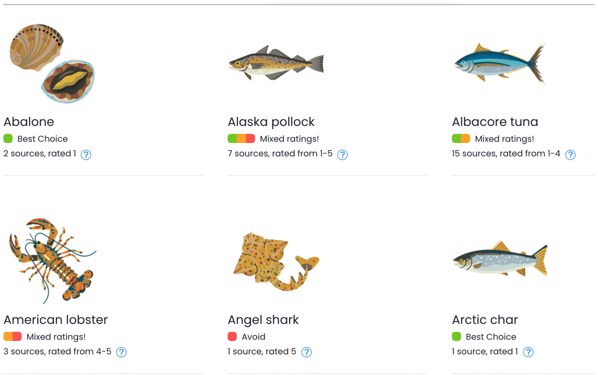


Prior Art



Seasons App: no longer available for download at any app store, Seasons App served as inspiration to create the map feature that locates the in-season produce. The difference is that the app does not take into consideration the location of the user, making it hard to shop for the products suggested. Seasons is also outdated and designed for a much broader audience, as it is aimed at people's day-to-day lives.

Every purchase matters. Our seafood ratings help you make the most sustainable choices.



Abalone
🟩 Best Choice
2 sources, rated 1

Alaska pollock
Mixed ratings!
7 sources, rated from 1-5

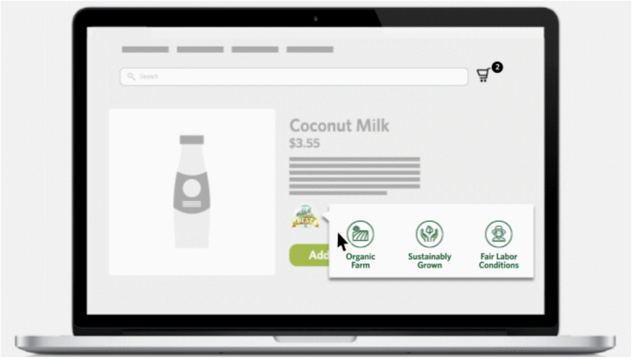
Albacore tuna
Mixed ratings!
15 sources, rated from 1-4

American lobster
Mixed ratings!
3 sources, rated from 4-5

Angel shark
🟥 Avoid
1 source, rated 5

Arctic char
🟩 Best Choice
1 source, rated 1

Marine Conservation Society's Good Fish Guide is a web-based app aimed at fish consumers. It has a similar idea to GreenMenu: to create a rating of sustainability and help users to make educated decisions before purchasing fish. The main difference is that Good Fish Guide focuses on seafood and has the ratings based on how fish were caught. GreenMenu incorporates all types of food products and offers substitutes with similar nutritional value, but that are less harmful to the environment.

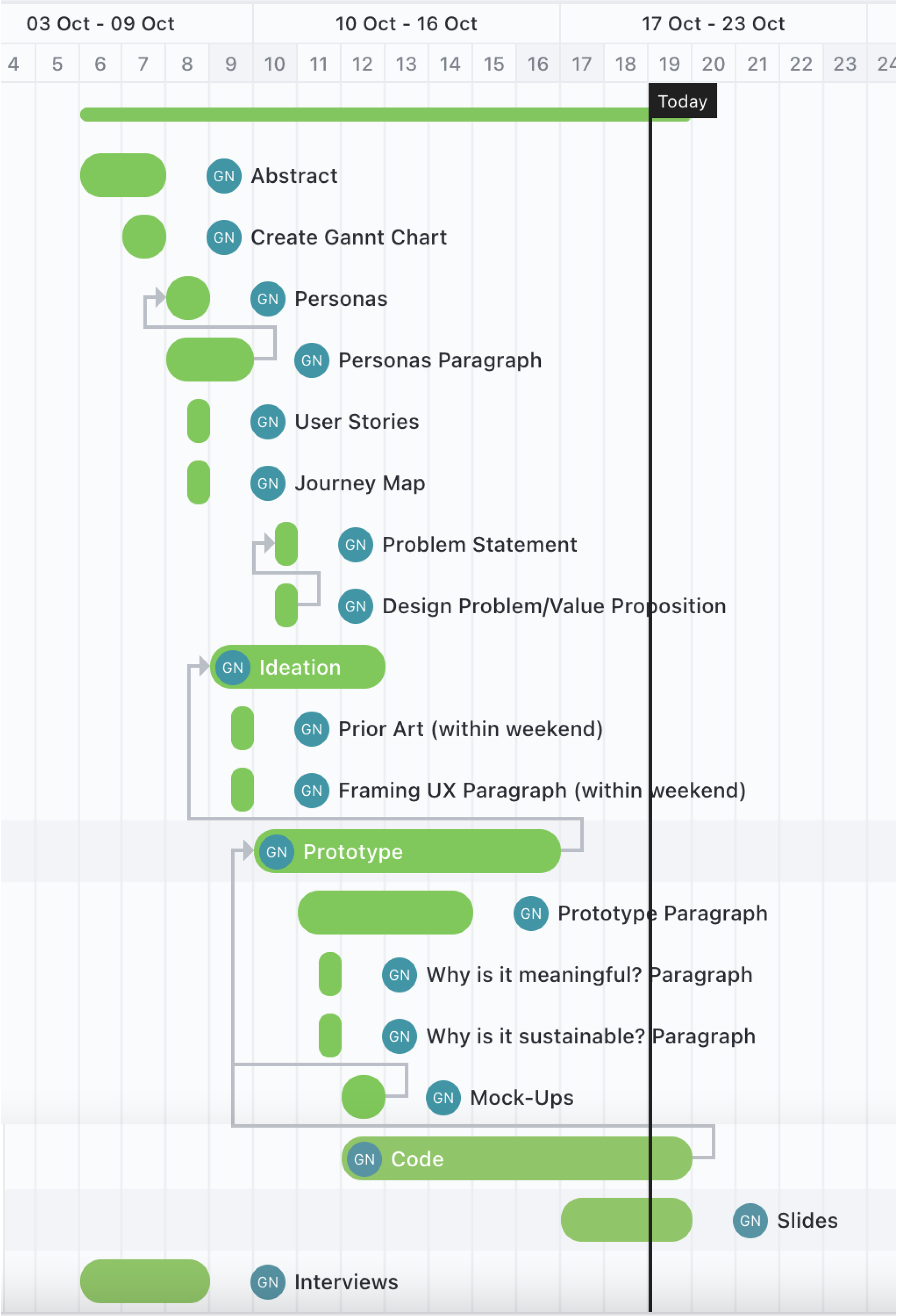


How Good: This web-based application focuses on helping retailers improve the products they sell in-store and educate the buyers on the sustainable factors of each product. The app adds a set of attributes to products at the retailer's website that ranges from organic, to sustainable to fair work conditions. It has a similar idea to GreenMenu but with a different target audience.

Conclusion

This research has shown that it is possible, through small changes, to develop a more sustainable eating habit. The impact that this change can cause, if applied to schools around America is enormous. When testing the final prototype with nutritionists, the feedback received was positive. The subjects enjoyed the fact that the app does not focus on healthy habits, which they mentioned would be redundant to their jobs, but instead adds a new layer of knowledge to make menu preparations. Without time constraints, the project would move further to explore the map feature and how the data is inserted in the app. Might be through a national database of farmers' markets, or a new front aimed at farmers themselves, so the collaboration between schools and farmers markets could reach a new level. To conclude, this was a successful experiment with a product that would have a true impact on the environment.

Project Schedule



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2. https://www.deseret.com/2012/7/12/20504393/water-footprints-and-how-much-water-is-in-your-hamburger#a-clip-from-a-video-by-the-european-unions-imagine-all-the-water-website-that-used-4786-balloons-each-filled-with-a-half-liter-of-water-to-illustrate-how-much-water-is-used-in-producing-a-cheeseburger
3. https://www.peta.org/issues/animals-used-for-food/factory-farming/cows/

GitHub

mm621-project-2.github.io/p5 - project 2 - screen 1/